XXIV.—THE FOOD OF THE MUGGER (*CROCODILUS PALUSTRIS*).

With reference to Mr. McCann's note on the crocodiles of Powai Lake feeding on beetles (which habit I have independently confirmed), I am informed by a usually reliable local authority, that these 'degenerate' animals feed on the fallen fruit of the 'Oomber'. (*Ficus glomerata*).

ANDHERI. HUMAYUN ABDULALI.

November 25, 1937.

XXV.—THE HEAD SHIELDS OF THE HAMADRYAD [*NAIA HANNAH* (CANTOR)]: AN ABNORMAL EXAMPLE.

I append a drawing of the head of the King Cobra [*Naia hannah* (Cantor)] I shot in 1936 showing a peculiar characteristic in the form of a small scale imposed between the parietals and the two occipital shields as shown shanked in the sketch.

After a perusal of various works on Indian snakes I find that this feature is not noted or illustrated in drawings of this snake's head. I therefore conclude that it must be a variation from the normal with this particular specimen. Another feature is the divided left-hand occipital, the left lobe having the appearance of a body scale, also the unequal size of the temporals from each other on either side.

It will also be seen that the right parietal has a kink in the side. I note that Wall mentions in his 'Poisonous Terrestrial Snakes' that he has never seen a ..... scale in the Hamadryad. Two exist on either side of the lower jaw of this specimen.

NADUAR ESTATE,

VALPARAI P.O., R. N. CHAMPION-JONES.

S. INDIA.

March 1, 1938.

[The snake described by the author is an aberrant specimen. None of the Hamadryads in our collection show the characters indicated.—EDS.].

XXVI.—TWO CATERPILLARS OF ECONOMIC IMPORTANCE NOT RECORDED BEFORE FROM S. INDIA.[1]

At the previous session of the Congress the author submitted a paper on the cultivation of the *Koorkan* plant (*Coleus parviflora*), as a vegetable crop in Malabar, and in that paper a passing

[1] Paper read at the Indian Science Congress, Calcutta, 1938.

reference was made to two leaf-eating caterpillars causing some damage to the crop. Further studies were since made on these two insects and in this short paper an attempt is made to present the data collected, on the bionomics of these insects and their proper identification. There is no previous record of these insects as pests from any part of India. The insects have been identified as (1) *Pycnarmon cribrata* F. and (2) *Phostria piasusalis* W. both belonging to the family *Pyralidae*.

Pycnarmon cribrata F.

The adult insect is a medium-sized moth with the cream white wings, speckled with brownish patches. It is similar in appearance to *P. jaguaralis* G. Though nine species of the genus *Pycnarmon* (*Aripana* of Moore) are recorded by Hampson in his *Fauna* volume this species is not one of them.

The life history of the moth is passed on the *Coleus* plant itself. The eggs are laid on the tender leaves and the caterpillar feeds from inside a longitudinally folded leaf. The two lateral halves of the leaf are brought over and folded inwards and having eaten the leaf it folds another and feeds from inside of this sheath. A full-grown caterpillar reaches an inch in length. It is slender and elongated and slightly compressed dorsoventrally. General colour is olive green above and paler below. Head pale brown; prothorax dark grey, all the body segments from behind the prothorax have each a transverse row of shining black tubercular spots each giving rise to a pale white set; while on the meso- and metathoracic segments there are two such black spots on each side of the middorsal line, all the abdominal segments have only one on each side of the middorsal line. All these segments have also a lateral smaller black spot on each side. The legs are grey and the pro-legs transparent green. The pupa is reddish brown and is found inside the leaf fold itself. The pupation period occupies ten to twelve days.

Phostria piasusalis W.

This caterpillar, though a leaf feeder, exhibits a slightly different habit. Instead of folding a single leaf longitudinally like *Pycnarmon* this larva selects the top shoot leaves of the plants and webs them together and remains feeding inside this fold made of more than one leaf. In general coloration the caterpillar of *Phostria* is pale green uniformly and has no series of black spots. The moth also has sombre pale brownish wings with no conspicuous spots. No species of *Phostria* is recorded by Hampson in his fauna volume.

During the breeding of these moths, the leaf folder caterpillar *Pycnarmon* was found heavily parasitised in the fields by a small stout built braconid wasp *Microgaster psarae* W. previously recorded as parasitic on the brinjal leaf webber *Psara bipunctalis* F. in Malaya. The parasitic cocoons are pure white in colour and the parasite is a small shining red and black active insect measuring

about 1/6 in. in length. It appears possible that this parasite plays the part of a fairly efficient natural enemy of the pest.

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XXVII.—NOTES ON THE EARWIG (*DICRANA KALLIPYGA* DOHRN.).

Original specimen, ♀, caught in room at night, 28-11-37. When kept under observation was seen to feed on small insects, such as small grasshoppers, soft caterpillars, etc., by seizing them with the forceps, which are used for this purpose with as much dexterity as the callipers of a crab. The abdomen is then flexed and rotated to enable the object held in the forceps to be readily eaten by the earwig. Sometimes the victim is firmly held in the forceps for some time before feeding operations begin. The face of the insect is often eaten first, and the grip may be shifted from time to time to facilitate feeding; when only part of the meal remains the grip may be relaxed and the remains eaten without the help of the forceps. In the case of small and helpless insects also seizure may be effected directly by the mouth parts. When hungry, small insects may be pursued energetically and seized with the forceps with great dexterity. On one occasion when another specimen of the same species was placed in the tin it was bitten in half and the thorax and abdomen sucked empty.

On December 26th sixty-four eggs were found to have been laid on pieces of bark and moss. These have not yet hatched out and may be infertile. Oviposition was not witnessed. The eggs are oval, dull white, and are neatly stuck by one end to a flat surface.

So far this specimen has been kept alone and it feeds regularly on small grasshoppers.

Four new specimens; two ♂ and two ♀. These were found under the bark of eucalyptus trees after rain. They are of the same species as the above and this appears to be the common species up here; I have so far only found one other species living in similar places. These specimens feed in the way already described and are very aggressive, threatening each other and sparring with their forceps and when possible seizing each other; but opposite sexes treat each other in a much more friendly way. The males are readily distinguished from the females by their comparatively smaller abdomen and by the appearance of the last dorsal segment, which is very broad and produced laterally into strong crested folds; in the male also the penultimate ventral segment is broad and rounded, while in the female it is triangular and rounded at the apex. The male forceps is also distinctive, being stouter and more aggressive looking. The average length of the body appears to be about 20 mm. and the forceps 5 mm. The two female specimens are definitely larger than the males.